

## A New Species of *Aridarum*, Schismatoglottideae, Araceae from the Muller Range, Central Kalimantan, Indonesia

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A new rheophytic species, *Aridarum minimum*, section *Caulescentia*, Schismatoglottideae, Araceae is described from the Muller Range, Central Kalimantan, Indonesia.

Key words: Araceae, *Aridarum*, Borneo, Malesia, Muller Range, new species, rheophyte.

The botanical expedition to the Muller Range, Central Kalimantan, Indonesia in December 2004 revealed many new species and some have been described already (Tsukaya & Okada 2005, Tsukaya *et al.* 2005). In this paper a scientifically unknown rheophytic aroid of the genus *Aridarum* Ridl., an endemic genus to Borneo Island, belonging to the Schismatoglottideae, Araceae, is described. Bogner & Hay (2000) revised the genus *Aridarum* and recognized eight species in the genus. The aroid found in the Muller Range is most similar to *A. rostratum* Bogner *et al.* Hay but it showed distinct characteristics particularly on the shape of male flowers in the spadix.

***Aridarum minimum* H. Okada, sp. nov.** (Figs. 1, 2, 3)

Herba. Vaginae foliorum cum ligula lineari-lanceolata. Flores masculini supra aspectu catenae cum porca arcuata duos cavitates conectenti.

*Typus*: INDONESIA, Central Kalimantan: Dist. Murung Raya, near to Tumbang Naan (00°09'03"S, 113°45'04"E), Sungai (River) Lapangan, a branch of Sungai Joloi, Lapangan, Heliped II, 00°11'00"N, 113°31'59"E, about 200m alt., Dec. 20, 2004, Okada, H., Nagamasu, H.,

Tsukaya, H., Takano, A. & Naiki, A. TK-21 (Holotype in BO, isotypes in L, KYO, TI,)

Root stout. Stem sparsely creeping. Leaves; petiole 4-7 cm long, about 1-1.5 mm in diameter; sheath with a free 3-4 cm long ligule; blade coriaceous, dark green, lanceolate, 4.5-7 cm long and 0.7-1.2 cm wide, base narrowly cuneate, apex acuminate, margin prominently thickened; venation faint, parallel, mid-vein strong. Inflorescence; peduncle 1.5-2.5 (-6) cm long, 1 mm in diameter, spathe not constricted, white (Fig. 1B), 1.5-3 cm long, 5-8 mm wide, apex acuminate, upper three quarters to two thirds of the spathe shed after anthesis, lower part about 8 mm long, green, persistent. Spadix about 10-15 mm long and 4-6 mm wide; basal female part about 2 mm long, intermediate staminodial part about 4 mm long, followed by male part about 2 mm long, ending in an appendix 5-8 mm long (Fig. 2). Flowers unisexual, naked. Female flowers in two rows, each consisting of an ovary about 1 mm in diameter, cylindrical, unilocular; stigma sessile, disk-like, about 0.6 mm in diameter. Staminodes in two rows, cylindrical, about 2 mm in diameter. Male flowers in two rows, with chain like pattern with two shallow cavities linked on the upper sur-

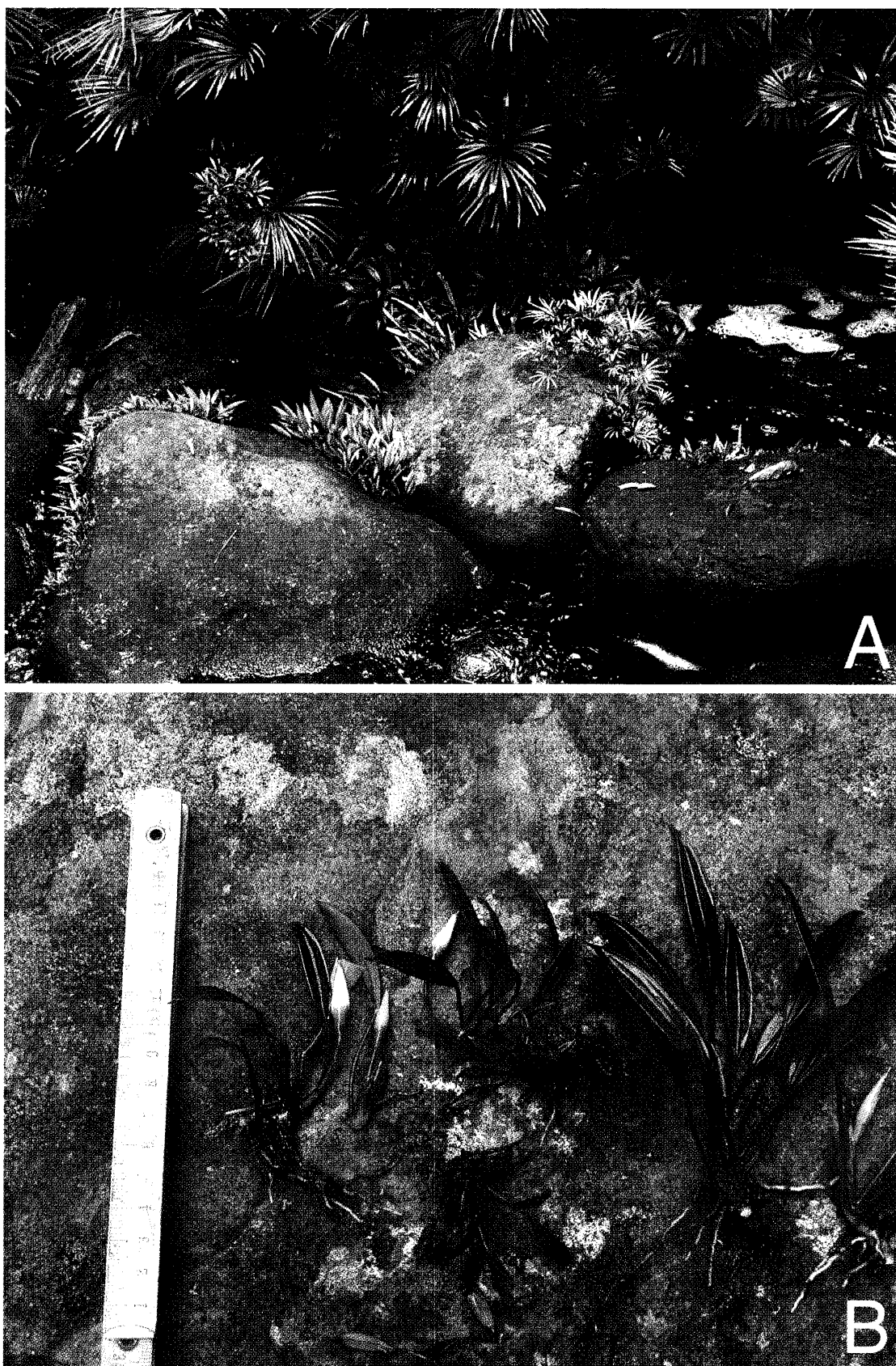


FIG. 1. *Aridarum minimum* sp. nov. A: Rheophytic habitat growing together with a rheophytic fern, *Dipteris lobbiana*. B: Living plants collected. Upper two thirds of spathe is white in color. Margin of leaf is prominently thickened.

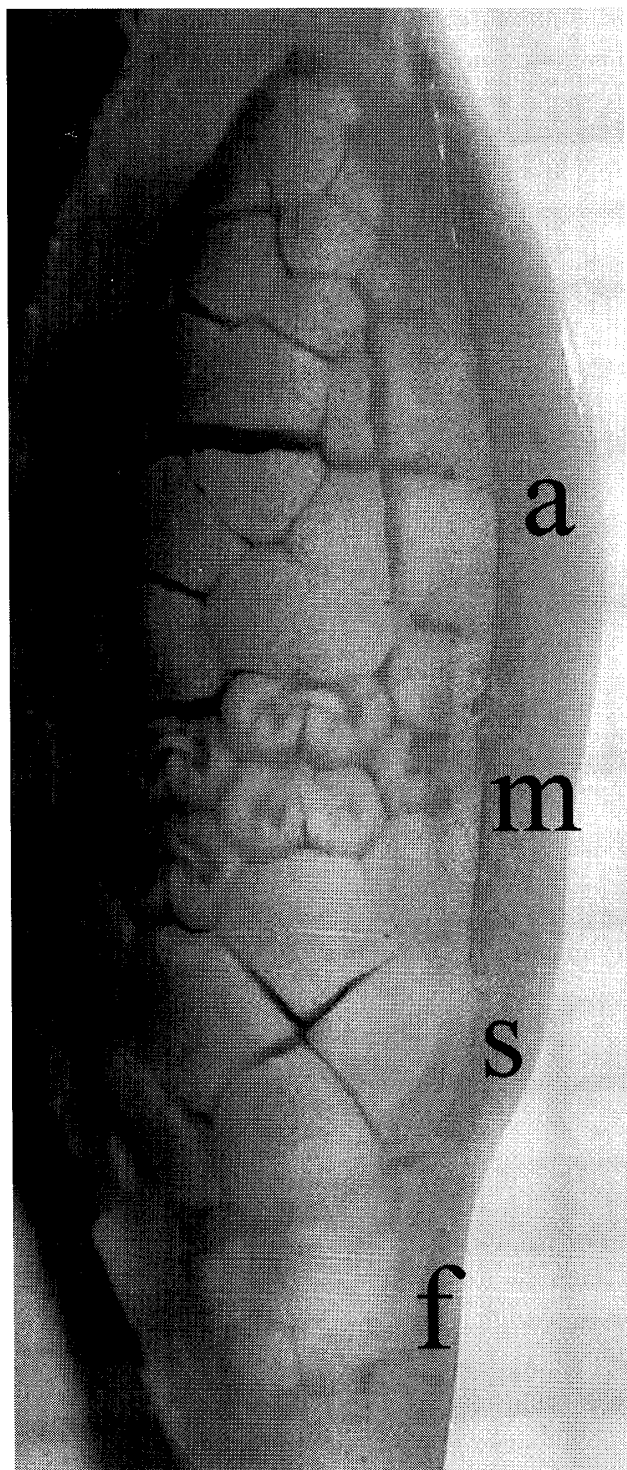


FIG. 2. Spadix (inflorescence) of *Aridarum minimum* sp. nov. a: appendix, m: male part, s: staminodes, f: female part. Mesh in the background =  $1 \times 1$  mm.

face and short horned thecae on the proximal side of the stamen, about 0.8 mm long and 1-1.5 mm wide (Figs. 2, 3). Infructescence surrounded by persistent

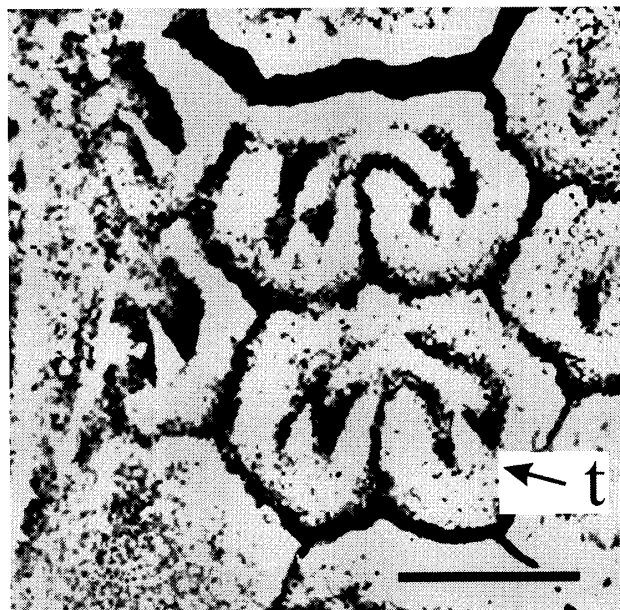


FIG. 3. Male part of *Aridarum minimum* sp. nov. t: Horned theca of stamen. Scale = 1mm.

funnel-shaped lower part of the spathe, slightly expanded after anthesis, about 1 cm long and 1 cm in diameter.

*Distribution:* Known only from the type locality.

*Habitat:* The sparsely creeping stems of this new species fastened with stout roots on large rocks at the bottom of the rheophytic zone along a rapid stream under a primary evergreen rain forest composed of *Shorea* spp. (Dipterocarpaceae), *Lithocarpus* spp. (Fagaceae), *Agrostistachys* sp., *Aposusa* sp., *Baccaurea* sp., *Mallotus* spp. (Euphorbiaceae), *Garcinia* spp. (Guttiferae), *Ardisia* spp., *Labisia* sp. (Myrsinaceae), *Urophyllum* sp., *Psychotria* spp., *Lasianthus* spp. (Rubiaceae) and other species. Water level at the habitat rose about 2m after heavy rain as judged from the imprints of dead leaves and branches flushed from the flooded stream. The habitat was a rheophytic zone along a tributary of the Sungai (River) Joloi, a branch of the Barito River, where a typical rheophytic fern *Dipteris lobbiana* (Hook.) Moore grew together with this new species on large rocks (Fig. 1A). This new species occupied at lowest part among the rheophytic zone. The

water color of the stream was chocolate brown and similar to water running through kerangas forests (= heath forests).

*Notes:* This new species belongs to the section *Caulescentia* M. Hotta (cf. Bogner & Hay 2000) according to the placement of thecae at the proximal side of the stamen (Figs. 2, 3). The shape of male flowers (stamens) closely resembles *Aridarum rostratum* Bogner et A. Hay, but is a remarkably different pattern from *A. rostratum*, or other species. The chain like pattern on the upper surface is unique in the genus. The trinerve like pattern of leaf bread with prominently thickened margin is also a particular character in the genus (Fig. 1B). The plant size of this species is quite small among the species of *Aridarum* and was similar to that of *A. incavatum* H. Okada et Y. Mori (Okada & Mori 2000).

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